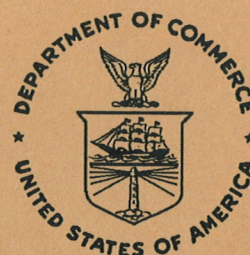


QC  
851  
.U6  
T32  
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NOAA Techniques Development Laboratory  
Computer Program NWS TDL CP 93-5



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# RETRIEVING ALPHANUMERIC AND GRAPHIC PRODUCTS FROM THE AFOS DATABASE THROUGH THE BACKGROUND PARTITION

Silver Spring, Md.  
November 1993

U.S. DEPARTMENT OF  
COMMERCE

National Oceanic and  
Atmospheric Administration

National Weather  
Service



## PREFACE

The Techniques Development Laboratory's (TDL's) computer program (CP) series is a subset of TDL's technical memorandum series. The CP series documents computer programs written at TDL primarily for the Automation of Field Operations and Services (AFOS) computers.

The format for the series follows that given in the AFOS Handbook 5, Reference Handbook, Volume 6: Applications Programs, Part 1: Policy and Procedures, published by the Office of Technical Services/AFOS Operations Division.

### NOAA Techniques Development Laboratory Computer Program NWS TDL

- CP 83-1 Gross Sectional Analysis of Wind Speed and Richardson Number. Gilhousen, Kemper, and Vercelli, May 1983. (PB83205062)
- CP 83-2 Simulation of Spilled Oil Behavior in Bays and Coastal Waters. Hess, October 1983. (PB84122597)
- CP 83-3 AFOS-Era Forecast Verification. Heffernan, Newton, and Miller, October 1983. (PB84129303)
- CP 83-4 AFOS Monitoring of Terminal Forecasts. Vercelli, December 1983. (PB84145697LL)
- CP 83-5 Generalized Exponential Markov (GEM) Updating Procedure for AFOS. Herrmann, December 1983. (PB84154822LL)
- CP 84-1 AFOS Display of MDR Data on Local Map Background. Newton, July 1984. (PB84220797)
- CP 84-2 AFOS Surface Observation Decoding. Perrotti, September 1984. (PB85137586)
- CP 84-3 AFOS-Era Forecast Verification. Miller, Heffernan, and Ruth, September 1984. (PB86148319LL)
- CP 85-1 AFOS Monitoring of Terminal Forecasts. Vercelli and Norman, May 1985. (PB85236388LL)
- CP 85-2 AFOS Terminal Forecast Decoding. Vercelli, Norman, and Heffernan, October 1985. (PB86147360LL)
- CP 85-3 AFOS-Era Forecast Verification. Ruth, Miller, and Heffernan, October 1985. (PB86148319LL)
- CP 87-1 AFOS Terminal Aerodrome Forecast Formatting. Wantz and Eggers, July 1987. (PB8810449LL)
- CP 87-2 AFOS-Era Forecast Verification. Ruth and Alex, July 1987. (PB88125570LL)
- CP 87-3 Forecast Review. Wolf, July 1987. (PB88125588LL)
- CP 87-4 AFOS Monitoring of MDR Data Using Flash Flood Guidance. Norman and Newton, October 1987. (PB88137450LL)
- CP 87-5 AFOS Terminal Forecast Quality Control. Vercelli and Leaphart, December 1987. (PB88169925LL)
- CP 88-1 AFOS Terminal Forecast Decoding. Vercelli and Leaphart, August 1988. (PB89101240LL)
- CP 89-1 Structure Flow Diagram Generator. Adams, March 1989. (PB89195978AS)
- CP 89-2 String Search. Adams, March 1989. (PB89195986AS)
- CP 89-3 Extended Memory Library for AFOS Applications. Leaphart, June 1989. (PB92216290)

(Continued on inside back cover)



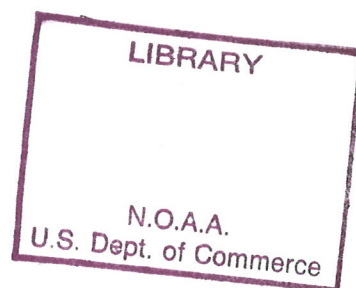
QC  
851  
V6  
T32  
no. 93-5

NOAA Techniques Development Laboratory  
Computer Program NWS TDL CP 93-5

## RETRIEVING ALPHANUMERIC AND GRAPHIC PRODUCTS FROM THE AFOS DATABASE THROUGH THE BACKGROUND PARTITION

Robert A. Beasley

Techniques Development Laboratory  
Silver Spring, Md.  
November 1993



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TABLE OF CONTENTS

|  | Page |
|--|------|
| 1. Introduction  | 1    |
| 2. Methodology and Software Structure                                | 1    |
| A. Program PRAFOSKEY   | 1    |
| B. Program GPHARCHIVE  | 2    |
| 3. Procedures  | 3    |
| A. Program PRAFOSKEY   | 3    |
| B. Program GPHARCHIVE  | 3    |
| 4. Cautions  | 3    |
| 5. References  | 5    |
| 6. Program Information and Procedures for Installation and Execution | 6    |
| I. Program PRAFOSKEY   | 6    |
| A. Program Information and Installation Procedure                    | 6    |
| B. Program Execution and Error Conditions                            | 8    |
| II. Program GPHARCHIVE   | 11   |
| A. Program Information and Installation Procedure                    | 11   |
| B. Program Execution and Error Conditions                            | 13   |
| Figure   | 15   |

## RETRIEVING ALPHANUMERIC AND GRAPHIC PRODUCTS FROM THE AFOS DATABASE THROUGH THE BACKGROUND PARTITION

Robert A. Beasley

### 1. INTRODUCTION

These programs, PRAFOSKEY and GPHARCHIVE, allow retrieval from the background partition of the National Weather Service's (NWS) Automation of Field Operations and Services (AFOS) (NWS 1989 and 1992) of locally stored alphanumeric and graphic database products. Any alphanumeric product [i.e., formatted using the American Standard Character Set for International Interchange (ASCII)] can be retrieved from the AFOS database by PRAFOSKEY and subsequently stored as a Real Time Disk Operating System (RDOS) (Data General Corporation 1974 and 1978) file, printed on a line printer or PPM, or both. Any graphic product stored in the AFOS database in the Universal Transmission Format (NWS 1987) can be retrieved from the database by GPHARCHIVE and also stored as an RDOS file. These graphic files can be displayed on an AFOS Graphic Display Module (GDM).

Perhaps the most significant feature of these programs is that they essentially duplicate the AFOS foreground "SAVE" command from the background partition. This allows one to save AFOS alphanumeric and graphic products as RDOS files in a "hands-off" unattended situation, as could be done by a background scheduler program such as WATCHDOG (Schneider and Peterson 1991).

For alphanumeric products, PRAFOSKEY provides the user with many options beyond the standard AFOS foreground commands. While the AFOS "SAVE" command only allows one to save a single version of a product as an RDOS file, PRAFOSKEY allows multiple versions of alphanumeric products to be saved in the same file. The user can specify which version or versions will be saved as alphanumeric (ASCII) products through a host of command line switches. Versions to be saved can be specified by the version number or by the AFOS creation date and time.

PRAFOSKEY also allows one to print the specified product on the line printer or PPM at the same time the product is saved as an RDOS file. Such action from the foreground would involve separate commands.

GPHARCHIVE allows sites to archive to disk any of the UTF graphics available in the AFOS database. This reduces the need to store many versions of a graphic in the database which occupy precious room. Graphics for important weather events can easily be archived to disk and examined at a later date.

### 2. METHODOLOGY AND SOFTWARE STRUCTURE

#### A. Program PRAFOSKEY

The first task of PRAFOSKEY is to read the command line switches. While most of the switches are optional, the local "K" switch is required. This switch is used to specify the AFOS key which will be retrieved and stored and/or printed. The other switches determine which version or versions of the

product will be retrieved from the AFOS database and whether or not the product is to be printed. The version(s) of a product to be retrieved from the database may be specified by its (their) order relative to the current version or by its (their) AFOS creation date/time.

After the product to be obtained from the database has been determined, the product is retrieved from the database and written to an RDOS file which is named after the retrieved key. Generically, this file is denoted in this CP as "CCCNXX.DT", where "CCC" denotes either the site's AFOS node or a national category, "NN" denotes the product category, and "XX" denotes the local category. For example, if the product obtained is OKCSA00KC, then the RDOS filename will be OKCSA00KC.DT. This file may be printed at program execution time with the global "P" command switch, or later as an RDOS file. It may also be displayed on an Alphanumeric Display Module (ADM). Given that "CCCNXX.DT" is located in SYSZ, use the command "PRINT CCCNXX.DT" from the background to print on the line printer or PPM, and the command "DSP:CCCNXX.DT" at the ADM to display the file on the ADM.

It is important to note, that upon each execution of PRAFOSKEY, the previous "CCCNXX.DT" file created by PRAFOSKEY will be deleted so as to avoid an accumulation of the "CCCNXX.DT" files in the SYSZ partition (or the directory to which the ".DT" file is linked). If this action were not taken, the file space in SYSZ could eventually be exhausted upon many runs of PRAFOSKEY on different products. The RDOS file PRAFOSKEY.DT, which should be resident in SYSZ at all times, contains the name of the RDOS file "CCCNXX.DT" written during the previous execution of PRAFOSKEY. This "CCCNXX.DT" will be deleted upon the next execution of the program.

Fig. 1. illustrates the logical program flow of PRAFOSKEY.

#### B. Program GPHARCHIVE

As with PRAFOSKEY, the first task of GPHARCHIVE is to read the command line switches. Command line switches available to GPHARCHIVE are very similar to those used with PRAFOSKEY. As with PRAFOSKEY, the local "K" switch is required to specify the graphic key which will be retrieved from the AFOS database. The other switches define the product creation time interval in which the version(s) of the product must fall.

After the graphic product is retrieved from the database and certain AFOS header information is removed, the graphic is saved in an RDOS file named according to the product and its AFOS creation date/time. The format of the archived RDOS filename is "XXMMDDYY.HH", where "XX" denotes the local graphic category (e.g., 90R for the U.S. radar graphic), "MM" is the AFOS creation month, "DD" is the AFOS creation day, "YY" the creation year (obtained from the system), and "HH" is the AFOS creation hour (rounded to the nearest hour).

A notable difference between PRAFOSKEY AND GPHARCHIVE is that only one version of a graphic product may be retrieved upon an execution of GPHARCHIVE, whereas multiple versions of alphanumeric products may be obtained upon a single execution of PRAFOSKEY.

Another notable difference between these two programs is that a graphic archived as an RDOS file is not deleted on a subsequent run of GPHARCHIVE.

Each run of the program for a valid graphic will create an "XXXMMDDYY.HH" file which will reside in the SYSZ partition or an appropriately linked directory.

Fig. 1 illustrates the logical program flow for GPHARCHIVE.

### 3. PROCEDURES

#### A. PROGRAM PRAFOSKEY

PRAFOSKEY is initiated from the DASHER by entering:

```
PRAFOSKEY/A/C/E/P mmddyy/D CCCNNNXXX/K bbbbeeee/R hhmm/T vv/V
```

This entry will execute all actions from setting the optional switches and retrieving the specified alphanumeric product from the AFOS database to writing the retrieved product to the RDOS file "CCCNNNXXX.DT". The data will also be printed on the line printer or Printer Plotter Module (PPM). The command line switches are listed and defined in Section 7, Part I-B.

PRAFOSKEY does not require any input RDOS data or control files, simply that the product to be retrieved is a valid ASCII product in the local AFOS database. Note that binary files [graphics, gridded binary data, and files written in Binary Universal Format for data Representation (BUFR) [World Meteorological Organization (WMO) 1988] cannot be retrieved using PRAFOSKEY.

#### B. PROGRAM GPHARCHIVE

GPHARCHIVE is initiated from the DASHER by entering:

```
GPHARCHIVE mmddyy/D CCCGPHXXX/K bbbbeeee/R hhmm/T
```

This entry will execute all actions from setting the optional switches and retrieving the specified graphic product from the AFOS database to saving the graphic as an RDOS file. The command line switches are listed and defined in Section 7, Part II-B.

As with PRAFOSKEY, GPHARCHIVE does not require any input RDOS data or control files, simply that the product to be retrieved is a valid AFOS graphic product stored in UTF format. GPHARCHIVE is not intended for use with alphanumeric products.

### 4. CAUTIONS

Because of the many similarities between these two programs, the cautions have been grouped into three sections. The first section lists those cautions which are peculiar to just PRAFOSKEY, the second those which pertain only to GPHARCHIVE, and the third those which are common to both programs.

#### PRAFOSKEY:

- a. Binary data files, such as graphics, gridded data, and BUFR files cannot be retrieved from the AFOS database with PRAFOSKEY.

- b. A minimum of 54 RDOS blocks should be available for the installation of PRAFOSKEY and its related files. The space required for the output ".DT" file depends on the size of the product to be retrieved. The minimum acceptable space would be 2 blocks.
- c. If you wish to retrieve multiple versions of a product, including the current version, but not all of the versions available in the data base, then you must use the global "C" and local "V" switches simultaneously.
- d. Either one or two digits may be used in specifying the previous version which is to be retrieved, or the number of previous versions which are to be retrieved through the local "V" switch. Acceptable values range from 1 to 98.
- e. A copy of the RDOS file PRAFOSKEY.DT must exist at all times on the SYSZ partition or may be linked to the SYSZ partition. This file simply contains the name of the ".DT" file created upon the last execution of the program. If the file does not exist, you must create one using any RDOS text editor. Only a one line entry is required in the file, which initially may contain simply the characters "CCCNXX.DT" starting in column one.
- f. Each execution of PRAFOSKEY will create an RDOS ASCII file "CCCNXX.DT", named after the product retrieved from the AFOS database. This file contains the contents of the AFOS product which were retrieved. The next execution of PRAFOSKEY will delete this file. If you wish to save the "CCCNXX.DT" file created upon the execution of PRAFOSKEY, then you must rename it or copy its contents to another RDOS file.

#### GPHARCHIVE:

- a. Only valid AFOS graphic products (those which can be displayed on a GDM) can be retrieved with GPHARCHIVE. Part of the AFOS header information is stripped from the product in its restorage as an RDOS file.
- b. A minimum of 42 RDOS blocks should be available for the installation of GPHARCHIVE. The amount of space required for the archived graphic is dependent on the size of the graphic. The minimum acceptable would be 5 blocks.
- c. Only a single version of a graphic may be retrieved upon an execution of GPHARCHIVE. Retrieval of multiple versions of graphics is not permitted.
- d. Each execution of GPHARCHIVE will create an RDOS file of the form "XXMMDDYY.HH". In contrast to PRAFOSKEY, these files are not deleted upon the next execution of the program. If you do not wish to have these files accumulating in the SYSZ partition, then create appropriate links to other directories for the files which you regularly plan to archive.

#### PRAFOSKEY AND GPHARCHIVE:

- a. A valid AFOS key must always be specified through the local "K" switch. There are no default assignments.



- b. The local "D" switch always requires six digits. The first two digits denote the month (mm), the second two digits denote the day (dd), and the last two digits denote the year (yy) of the base or anchor date which is used to define the retrieval interval. No other number of digits is acceptable. Leading zeroes must be specified.
- c. The local "R" switch always requires eight digits. The first four digits (bbbb) denote the lower range value and the second four digits (eeee) denote the upper range value. No other number of digits is acceptable. Leading zeros must be specified.
- d. The local "T" switch always requires four digits to specify the base time or anchor time from which the lower and upper time boundaries are determined. The first two digits denote the hour (hh) and the second two digits denote the minutes (mm). No other number of digits is acceptable. Leading zeros must be specified.

## 5. REFERENCES

- Data General Corporation, 1974: RDOS/DOS User's Handbook, Ordering No. 093-000053, Data General Corporation, Southboro, Massachusetts, 235 pp.
- \_\_\_\_\_, 1978: RDOS/DOS User's Handbook, Ordering No. 093-000105, Data General Corporation, Southboro, Massachusetts, 216 pp.
- National Weather Service, 1987: AFOS Handbook No. 5, Vol. 6 Part 2, Appendix B, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.
- \_\_\_\_\_, 1989: AFOS Handbook No. 2, Vol. 1, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.
- \_\_\_\_\_, 1992: Guide to AFOS System Z, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.
- Schneider, William R., and Craig C. Peterson, 1991: WATCHDOG. Western Region Computer Programs and Problems, NWS WRCP No. 57 (Revised), National Weather Service, NOAA, U.S. Department of Commerce, 24 pp.
- WMO, 1988: Manual on Codes, Vol. 1, Part B--Binary Codes. WMO No. 306, World Meteorological Organization, Geneva, Switzerland, 43-173.

## 6. ACKNOWLEDGMENTS

The author extends his appreciation to Thomas Schwein of the Central Region Headquarters. GPHARCHIVE is patterned after a routine he provided which retrieves an AFOS graphic product from the database and stores it as an RDOS file. The author would also like to acknowledge the dedicated efforts of Mrs. Karen Yip who carefully prepared the final manuscript.

## 7. PROGRAM INFORMATION AND PROCEDURES FOR INSTALLATION AND EXECUTION

### I. PROGRAM PRAFOSKEY

#### PART A: PROGRAM INFORMATION and INSTALLATION PROCEDURE

PROGRAM NAME: PRAFOSKEY

AAL ID: DBC084

Revision No.: 2.00

FUNCTION: Retrieves a user specified alphanumeric (ASCII) product from the local AFOS database and writes the contents of the product to an RDOS file named "CCCNXX.DT". The AFOS product can also be simultaneously printed on a line printer or PPM.

#### PROGRAM INFORMATION:

Development Programmer(s):

Robert A. Beasley

Location: Techniques Development  
Laboratory

Phone: 301-713-0056

Language: FORTRAN IV/Rev 5.57  
MAC Assembler/Rev 6.30

Maintenance Programmer(s):

Robert A. Beasley

Location: Techniques Development  
Laboratory

Phone: 301-713-0056

Save file creation dates: PRAFOSKEY.SV

|                                |   |              |
|--------------------------------|---|--------------|
| Original release/revision 1.00 | - | August 1991  |
| TDL release/revision 2.00      | - | October 1993 |

Running time:

10 seconds per AFOS product occupying 1 AFOS page.

Disk space:

|                |                  |
|----------------|------------------|
| Program files: |                  |
| PRAFOSKEY.SV   | - 51 RDOS blocks |

|              |                  |
|--------------|------------------|
| Data files:  |                  |
| PRAFOSKEY.DT | - 1 RDOS block   |
| CCCNXX.DT    | - ≥ 2 RDOS block |

#### PROGRAM REQUIREMENTS

Program files:

NAME

PRAFOSKEY.SV



Data files:

| <u>NAME</u>  | <u>Disk location</u> | <u>READ/WRITE</u> | <u>COMMENTS</u>   |
|--------------|----------------------|-------------------|---|
| PRAFOSKEY.DT | Master directory     | R/W               | Originally produced by RDOS text editor.  |
| CCCNNNXXX.DT | Master directory     | W                 | Written by PRAFOSKEY.SV<br>CCC = AFOS node or national center.<br>NNN = product; category for an alphanumeric;<br>XXX = local product category. |

AFOS Products:

| <u>ID</u> | <u>ACTION</u> | <u>COMMENTS</u>   |
|-----------|---------------|---|
| CCCNNNXXX | Read          | CCC = AFOS node or national center;<br>NNN = product category for an alphanumeric;<br>XXX = local product category. |

LOAD LINE

```
RLDR/P/E PRAFOSKEY PRAFOSKEY.LM/L NAFREAD CNAFREAD AFDTIM DCMPR PRAFOSREV ^
DECINTV CHGDT GETYEAR GETLINES GNUMPHR ^
INITAR BMOVE IPANDEC ILEN CCAT ^
<BG UTIL SYS FORT AFOSE>.LB
```

PROGRAM INSTALLATION

1. Move the executable module PRAFOSKEY.SV to the master directory (usually SYSZ) or to an applications directory with links to the master directory.
2. Create, using an RDOS text editor, an initial PRAFOSKEY.DT file using an RDOS text editor. Enter on line 1 only the characters "CCCNNNXXX.DT". This should not be necessary on any subsequent runs of the program unless the file PRAFOSKEY.DT has accidentally been deleted.

PART B: PROGRAM EXECUTION and ERROR CONDITIONS

PROGRAM NAME: PRAFOSKEY

AAL ID: DBC084  
Revision No.: 02.00

PROGRAM EXECUTION

1. Run PRAFOSKEY

At the DASHER enter:

PRAFOSKEY/A/C/E/P mmddyy/D CCCNNNXXX/K bbbbeeee/R hhmm/T vv/V

Definition of switches:

GLOBAL

/A = Retrieve and save to the RDOS file "CCCNNNXXX.DT" all versions of the AFOS product "CCCNNNXXX" which are currently available.

/C = Retrieve and save to the RDOS file "CCCNNNXXX.DT" the current version and the number of previous versions specified through the local "V" switch of the AFOS product "CCCNNNXXX". When the global "C" switch is used, the local "V" switch must be also.

/E = When used with the global "P" switch and either the "C" or "A" switches, a form feed will be sent to the printer between each successive version of the retrieved product "CCCNNNXXX".

/P = Print the retrieved product on the line printer or PPM.

LOCAL

mmddyy/D = The month (mm), day (dd), and last two digits of the year (yy) which will define the base or anchor date of the retrieval interval. Six digits must always be specified when using this switch.

CCCNNNXXX/K = The key name for the product which is to be retrieved from the AFOS database and saved to the RDOS file "CCCNNNXXX.DT". This switch is mandatory, there are no defaults.

bbbeeee/R = The lower and upper range values of the retrieval interval. The first four digits (bbbb) denote the lower range value and the second four digits (eeee) denote the upper range value. The range values are subtracted and added, respectively, to the base or anchor time (either the default system time or that specified through the local "T" switch).



hhmm/T = The base or anchor time from which the retrieval interval is defined. The retrieval interval will range from hhmm-bbbb to hhmm+eeee minutes.

vv/V = Specifies the number of the previous version to be retrieved when only retrieving a single key, or the number of previous versions to be retrieved when retrieving multiple versions of a product. The local "V" switch is required when using the global "C" switch.

Defaults (Switch not used):

Global

/A = Retrieve only the current version of the product "CCCNXX".

/C = Retrieve only the current version of the product "CCCNXX".

/E = Do not send form feeds to the printer.

/P = Do not print the retrieved products on the line printer or PPM.

Local

/D = Use the current system date as the base or anchor date of the retrieval interval.

/K = NO DEFAULT AVAILABLE. This switch is required.

/R = Use the lower range value of 30 minutes and the upper range value of 30 minutes defining a 1-hour wide retrieval interval centered on the base or anchor time.

/T = Use the current system time as the base or anchor time of the retrieval interval.

/V = Retrieve only the current version of the product "CCCNXX".

2. Before executing the program, the file PRAFOSKEY.DT must exist. The file simply contains the key name of the alphanumeric product retrieved upon the last execution of PRAFOSKEY. If the file does not exist, you must create it using an RDOS text editor.

PROGRAM ERROR CONDITIONS

| <u>ERROR CONDITIONS</u>  | <u>MEANING</u>  |
|--|---|
| [1] - ERROR - INVALID VALUE<br>SPECIFIED FOR LOCAL "V" SWITCH.                                       | The only values allowed<br>are 1 through 98 inclusive.  |
| [2] - ERROR - CANNOT USE GLOBAL "C"<br>SWITCH WITHOUT LOCAL "V" SWITCH.                              | The local "V" switch is required<br>when using the global "C" switch.   |
| [3] - ERROR OPENING FILE PRAFOSKEY.DT.   | File PRAFOSKEY.DT does not exist<br>or is attribute protected.  |
| [4] - ERROR READING PRAFOSKEY.DT.  | Information specified in the<br>PRAFOSKEY.DT file is invalid.<br>Line 1 must contain the<br>characters "CCCNXXXX.DT" or a<br>similar AFOS key name. |
| [5] - ERROR OPENING NEW PRAFOSKEY.DT<br>FOR WRITING.   | File PRAFOSKEY.DT does not exist<br>or is attribute protected.  |
| [6] - ERROR - NO AFOS KEY SPECIFIED.   | The mandatory local "K" switch<br>is missing from the command line.   |
| [7] - ERROR CREATING NEW RDOS<br>CCCNXXXX.DT FILE.   | Previous "CCCNXXXX.DT" file<br>could not be deleted, probably<br>because it is attribute<br>protected.  |
| [8] - ERROR OPENING RDOS CCCNXXXX.DT<br>FILE FOR WRITING.  | "CCCNXXXX.DT" file does not<br>exist or is attribute protected.   |
| [9] - ERROR - UNEXPECTED EOF<br>ENCOUNTERED OPENING<br>SPECIFIED AFOS PRODUCT<br>- {NAFREAD}.        | Subroutine NAFREAD encountered<br>an unexpected "END OF FILE"<br>trying to read the key record<br>of the specified file.                            |
| [10] - ERROR OPENING SPECIFIED<br>AFOS PRODUCT - {NAFREAD}.  | Subroutine NAFREAD encountered<br>an error reading the key record<br>of the specified product.  |
| [11] - ERROR ENCOUNTERED WHILE READING<br>SPECIFIED AFOS PRODUCT<br>- {NAFREAD}.                     | Subroutine NAFREAD was unable to<br>read specified AFOS product.  |
| [12] - ERROR ENCOUNTERED WHILE READING<br>SPECIFIED PREVIOUS VERSION OF<br>AFOS PRODUCT - {NAFREAD}. | Subroutine NAFREAD was unable to<br>read a previous version of the<br>specified AFOS product.   |
| [13] - ERROR - UNABLE TO OBTAIN A<br>PREVIOUS VERSION OF SPECIFIED<br>KEY.                           | Specified version of product<br>is not available.   |
| [14] - ERROR - UNABLE TO OBTAIN PRODUCT<br>YEAR.   | Could not assume the product year<br>from the system year because the<br>product month differs by more<br>than one from the system month.           |



## II. PROGRAM GPHARCHIVE

### PART A: PROGRAM INFORMATION and INSTALLATION PROCEDURE

PROGRAM NAME: GPHARCHIVE

AAL ID: DBC084

Revision No.: 1.00

FUNCTION: Retrieves a user specified UTF graphic from the AFOS data base and saves the contents of the graphic to an RDOS file of the form "XXXMMDDYY.HH", where "XXX" is the local graphic category, "MM" is the two-digit day of the month, "DD" is the two-digit day of the week, "YY" is the two-digit day of the year, and "HH" is the two-digit rounded hour of the day.

#### PROGRAM INFORMATION:

Development Programmer(s):

Robert A. Beasley

Location: Techniques Development  
Laboratory

Phone: 301-713-0056

Language: FORTRAN IV/Rev 5.57  
MAC Assembler/Rev 6.30

Maintenance Programmer(s):

Robert A. Beasley

Location: Techniques Development  
Laboratory

Phone: 301-713-0056

Save file creation dates: GPHARCHIVE.SV

Original release/revision 1.00 - October 1993

Running time:

11 seconds per AFOS graphic product.

Disk space:

Program files:

GPHARCHIVE.SV - 37 RDOS blocks

Data files:

XXXMMDDYY.HH -  $\geq 5$  RDOS blocks

#### PROGRAM REQUIREMENTS

Program files:

NAME

GPHARCHIVE.SV

Data files:

| <u>NAME</u>  | <u>Disk location</u> | <u>READ/WRITE</u> | <u>COMMENTS</u>   |
|--------------|----------------------|-------------------|---|
| XXXMMDDYY.HH | Master directory     | W                 | XXX = local graphic category;<br>MM = AFOS creation month;<br>DD = AFOS creation day;<br>YY = Product year (taken from system);<br>HH = AFOS creation hour (rounded). |

AFOS Products:

| <u>ID</u> | <u>ACTION</u> | <u>COMMENTS</u>   |
|-----------|---------------|---|
| CCCGPHXXX | Read          | CCC = AFOS node or national center;<br>GPH = product category for graphic;<br>XXX = local product category. |

LOAD LINE

```

RLDR/P/E GPHARCHIVE GPHARCHIVE.LM/L CRTIME DCMPR GPHREV ^
DECINTV CHGDT GETYEAR ^
BCONVRT CCAT INITAR IPANDEC ^
<BG UTIL SYS FORT AFOSE>.LB

```

PROGRAM INSTALLATION

1. Move the executable module GPHARCHIVE.SV to the master directory (usually SYSZ) or to an applications directory with links to the master directory.
2. If desired, create links for those graphics (and dates of these graphics) that you regularly plan to archive. The RDOS file "XXXMMDDYY.HH" created upon each run of GPHARCHIVE will not be deleted upon subsequent runs, as is the case with PRAFOSKEY.

PART B: PROGRAM EXECUTION and ERROR CONDITIONS

PROGRAM NAME: GPHARCHIVE

AAL ID: DBC084  
Revision No.: 01.00

PROGRAM EXECUTION

1. Run GPHARCHIVE

At the DASHER enter:

GPHARCHIVE mmddyy/D CCCNNNXXX/K bbbbeeee/R hhmm/T

Definition of switches:

LOCAL

/D = The month (mm), day (dd), and last two digits of the year (yy) which will define the base or anchor date of the retrieval interval. Six digits must always be specified when using this switch.

/K = The key name for the graphic product which is to be retrieved from the AFOS database and saved as the file "XXXMMDDYY.HH".  
This switch is mandatory, there are no defaults.

bbbeeee/R = The lower and upper range values of the retrieval interval. The first four digits (bbbb) denote the lower range value and the second four digits (eeee) denote the upper range value. The range values are subtracted and added, respectively, to the base or anchor time (either the default system time or that specified through the local "T" switch).

hhmm/T = The base or anchor time from which the retrieval interval is defined. The retrieval interval will range from hhmm-bbbb to hhmm+eeee.

Defaults (Switch not used):

Local

/D = Retrieve the current version of the product "CCCGPHXXX".

/K = NO DEFAULT AVAILABLE. This switch is required.

/R = Use the lower range value of 720 minutes (12 hours) and the upper range value of 0 minutes defining a retrieval interval of 12 hours ending at the base or anchor time.

/T = Use the current system time as the base or anchor time of the retrieval interval.

PROGRAM ERROR CONDITIONS

| <u>ERROR CONDITIONS</u>  | <u>MEANING</u>   |
|--|--|
| [1] - ERROR - INVALID GRAPHIC KEY SPECIFIED                    | Graphic keys must be 9 characters in length "CCCGPHXXX",   |
| [2] - ERROR - SPECIFIED KEY NOT FOUND                          | The key specified through the local "K" switch is invalid.   |
| [3] - ERROR - UNABLE TO OBTAIN PRODUCT YEAR.                   | Could not obtain product year from the system year because product month differs by more than one from the system month. |
| [4] - ERROR - OBTAINING PREVIOUS PREVIOUS VERSIONS OF PRODUCT. | Could not find a previous version of the specified graphic.  |
| [5] - ERROR - READING FIRST BLOCK OF PREVIOUS VERSION.         | Could not read the first block of a previous version of the specified product.   |
| [6] - ERROR - NO CURRENT VERSION OF CCCGPHXXX AVAILABLE.       | The specified graphic could not be found in the database.  |
| [7] - ERROR OPENING RDOS ARCHIVE FILE.                         | File "XXXMMDDYY.HH" could not be opened. An existing "XXXMMDDYY.HH" file is probably attribute protected.                |



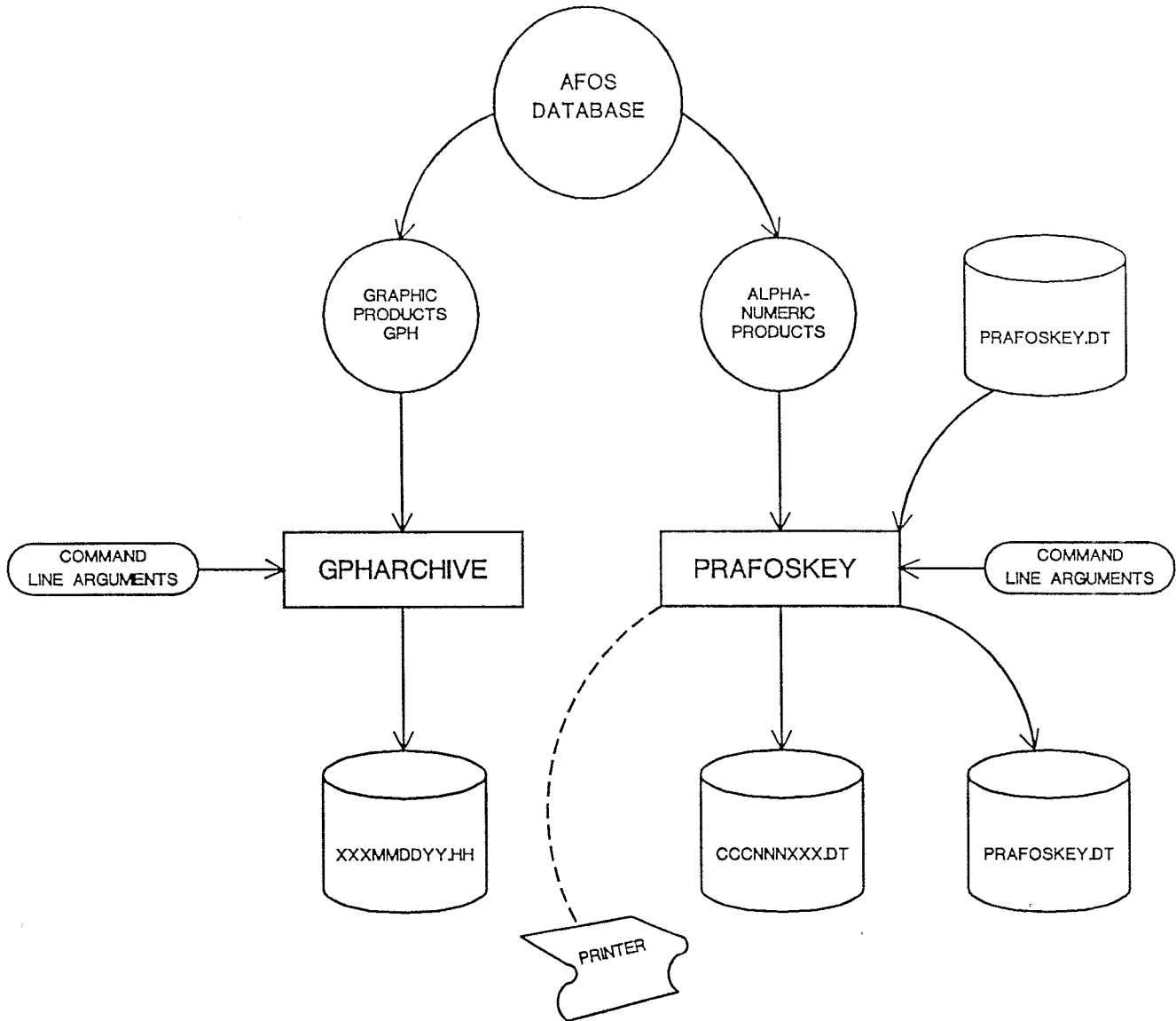


Figure 1. Logical program flow for PRAFOSKEY and GPHARCHIVE. Programs are denoted by boxes and AFOS products and RDOS disk files by circles. Ovals denote optional user command input. The dashed line represent optional flow.



(Continued from inside front cover)

Computer Program NWS TDL

- CP 92-1 Separating Individual Synoptics from within Synoptic Collectives.  
Beasley, August 1992. (PB92232313)
- CP 93-1 AFOS Profiler Software System. Battel, Leaphart, Moeller, and  
Petrie, August 1993.
- CP 93-2 AFOS Surface Observation Decoding. Beasley, September 1993.  
(PB94112042)
- CP 93-3 Decoding Satellite Cloud Products. Beasley, October 1993.
- CP 93-4 Decoding Nested Grid Model Statistical Forecasts. Beasley,  
October 1993.